

ABSTRACT OF THE DISCLOSURE

5 The presence of a nucleic acid target, molecule or
ligand can be detected by hybridization, antigen-
antibody reaction or receptor-ligand binding. This is
reported by the strategic positioning of a first probe
and a second probe attached to a small particle of
electrical conductor, which closes an electrical
10 circuit, thereby reporting the event. A myriad of
potential applications of this technique include the
identification and detection of small amount of nucleic
acids by hybridization, the detection of molecules such
as toxins and carcinogens by antigen-antibody reaction
15 and the detection of other molecules by receptor-ligand
interaction. The method can also be adapted to assay
the quantity of a given substance using the principle
of competitive binding.